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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/709,989	11/10/2000	Giorgos C. Zacharia	O0220/7002/SJH/DPM	4272

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EXAMINER	
STIMPAK, JOHNNA	
ART UNIT	**PAPER NUMBER**
3623	9

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/709,989	ZACHARIA, GIORGOS C.	
	Examiner	Art Unit	
	Johnna R Stimpak	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *April 16, 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The following is a second non-final office action in response to the amendment filed April 16, 2003. Claims 21-28 have been added. Claims 1-28 are pending and have been examined on the merits discussed below.

Response to Amendment

2. Amendments to the Abstract have been considered and fully overcome previous objections.

3. Amendments to the written description are also accepted.

4. As for the response to the objections to claims 1, 2, 4-9 and 20 regarding usage of the word "Act", Applicants arguments have been deemed persuasive. Examiner has withdrawn previous objections.

5. New rejections under 35 USC 101 have been introduced for claims 1-9.

6. As for claims 1-9, Applicant argues that Zacharia does not disclose determining a shortest length between the first entity and the second entity and weighting combined ratings to determine a personalized reputation according to the shortest length. Examiner respectfully disagrees. In equation 3 of Zacharia, it is specifically shown that θ' is the minimum of the connected paths between the rater and the ratee, thereby determining the reputation according to the shortest connected path between rater and ratee. The prior rejections to claims 1-9 are upheld and are reformulated below for convenience.

7. As for claims 10-28, Applicant argues that Zacharia fails to disclose a system for determining a ratee reputation for a first entity from the perspective of a second entity associated

with the first entity by one or more rating paths. Claims 10-28 are written in a mean-plus-function format and have been treated as though they are method claims. In view of the following statement, the Examiner is upholding the prior rejections to claims 10-20 and introducing new rejections to newly added claims 21-28.

The courts have held that such treatment is acceptable:

"If the functionally-defined disclosed means and their equivalents are so broad that they encompass any and every means for performing the recited functions, the apparatus claim is an attempt to exalt form over substance since the claim is really to the method or series of functions itself. In computer-related inventions, the recited means often perform the functions of "number crunching: (solving mathematical algorithms and making calculations). In such cases the burden must be placed on the applicant to demonstrate that the claim is truly drawn to specific apparatus distinct from other apparatus capable of performing the identical functions."

If this burden has not been discharged, the apparatus will be treated as if it were drawn to the method or process which encompasses all of the claimed "means". See In re Abele 214 USPQ 682, 688 (CCPA 1982); Ex parte Akamatsu, 22 USPQ 2d 1915, 1920; and Ex parte Alappat, 23 USPQ 2d 1340, 1344.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requires of this title.

9. **Claims 1-9** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to be statutory, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, **claims 1-9** only recite an abstract idea.

As per **claims 1-6**, the recited steps of performing a breadth-first search to determining a ratee reputation of an entity, based on the entity rating and the reputations of the rater, does not apply, involve, use, or advance the technological arts since all of the recited steps may be performed manually with or without the aid of any technology.

As per **claim 7**, the recited steps of merely determining whether to transact with an entity based on the reputation of the entity does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed manually with or without the aid of any technology.

As per **claim 8,** the recited steps of merely determining a price to pay for a good or service offered by and entity based on the reputation of the entity does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed manually with or without the aid of any technology.

As per **claim 9**, the recited steps of merely determining a price to pay for insuring a quality of a good or service offered by and entity based on the reputation of the entity does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed manually with or without the aid of any technology.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the disclosed invention uses a specific algorithm to produce rater reputations. The examiner is interpreting this algorithm is used to determine the rater reputation in the claims, which render the claims concrete and useful. However, the claimed invention is not tangibly embodied on any physical structure.

The recited process produces a useful and concrete result, but since the invention as a whole, does not produce a tangible result, it fails to meet the criteria for the second part of the 35 U.S.C 101 two-prong test as discussed above and is deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 1-6 and 10-25** are rejected under 35 U.S.C. 102(b) as being anticipated by Zacharia et al.

As per **claim 1**, Zacharia et al teaches a method of determining a personalized ratee reputation of a first entity from the perspective of a second entity associated with the first entity by one or more rating paths, wherein a rating path comprises one or more rating links, each rating link defining a rating of a rated entity provided by a rating entity, wherein each rating path has a length defined as a number of rating links comprised in the path, and each entity comprised on one of the rating paths has a level defined as a number of rating links between the entity and the second entity, the method comprising steps of: (A) performing a breadth-first search beginning at the second entity to determine, from the one or more rating paths, one or more first rating paths that have a first length equal to a shortest length between the first entity and the second entity (pg 5, 1st column – refer to highlighted portion, part a); (B) for each determined first rating path, identifying a third entity on the first rating path that has a level equal to one less than the first length (pg 5, 1st column – refer to highlighted portion, part b); (C) for each identified third entity, determining a first rating of the first entity provided by the third entity; (D) combining the first ratings; and (E) producing the personalized ratee reputation by weighting the combined first ratings by an amount according to the first length (pg 5, column 2, equation 2 – the reputation calculation involves combining the first (t) ratings and weighting the ratings by the length, θ or m).

As per **claim 2**, teaches step (D) comprises calculating an average of the first ratings pg 5, column 2, equation 2 – the reputation calculation involves combining the first (t) ratings and weighting the ratings by the length, θ or m, then dividing by the total number of ratings).

As per **claim 3**, teaches calculating the average comprises, for each first rating, weighting the first rating as a function of a personalized ratee reputation of the corresponding third entity from the perspective of the second entity, the weighting being relative to personalized ratee reputations of the other third entities from the perspective of the second entity (pg 5, column 1, part b – the reputation value of a user is evaluated taking into account all the ratings of the users at the last node of the path before the user being evaluated).

As per **claim 4**, teaches (F) for each third entity, determining the personalized ratee reputation of the third entity from the perspective of the second entity, comprising: (1) determining one or more fourth entities that are on one of the first rating paths, that have provided a second rating of the third entity and that have a level equal to one less than the level of the third entity; and (2) combining the second ratings to produce the personalized ratee reputation of the third entity from the perspective of the second entity (pg 5, column 2, equation 2, the equation can be calculated for any number of entities, rating paths and ratings).

As per **claim 5**, teaches step (F)(2) further comprises, for each third entity, calculating an average of the second ratings to determine the personalized ratee reputation of the third entity from the perspective of the second entity (pg 5, column 2 – equation 2 is recalculated using t=2, I=3).

As per **claim 6**, teaches (F) for each identified third entity, determining if the third entity has provided more than one rating of the first entity; and (G) for each third entity determined to

have provided more than one rating of the first entity, selecting a most recent rating of the more than one ratings as the first rating of the first entity provided by the third entity (pg 5, column 1, part a, only interested in the most recent θ paths with respect to the chronological order of the ratings).

As per **claims 10-18**, they are the system of modules for performing the method of claims 1-9, respectively. Therefore the rejection applied to claims 1-10 also applies to claims 10-18.

As per **claim 19**, it is the system with means for performing the method of claim 1. Therefore, the rejection applied to claim 1 also applies to claim 19.

As per **claims 20-25**, they are the computer program product comprising computer readable medium with instructions to perform claims 1-6. Therefore, the rejections applied to claims 1-6 also apply to claims 20-25.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claims 7-9 and 26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zacharia et al, in view of Moukas et al.

As per **claims 7 and 26**, Zacharia et al teaches all the limitation of claim 8 as applied to claim 1 above, but do not teach determining whether to transact with the first entity based on the determined ratee reputation of the first entity. Moukas et al teaches a selling agent that knows

what expertise an entity has and can compare different entities offering the expertise. Moukas et al specifically uses the reputation of the entity to decide whether to transact with the entity (p14). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the reputation generating method of Zacharia et al with the Moukas et al method of determining whether to transact with an entity to make, for example, an online shopping experience more efficient, realistic and trustworthy as suggested by Moukas et al.

As per **claims 8 and 27**, Zacharia et al teaches all the limitations of claim 9 as applied to claim 1 above, but do not teach determining a price to pay for a good or service offered by the first entity based on the determined ratee reputation of the first entity. Moukas et al teaches a selling agent that knows what expertise an entity has and can compare different entities offering the expertise. Moukas et al specifically teaches the reputation of the entity being a significant factor of the price level negotiation (p14). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the reputation generating method of Zacharia et al with the Moukas et al method of determining a price to pay for a good or service offered by the first entity based on the determined ratee reputation to make, for example, an online shopping experience more efficient, realistic and trustworthy as suggested by Moukas et al.

As per **claims 9 and 28**, Zacharia et al teaches all the limitations of claim 10 as applied to claim 1 above, but do not teach determining a price to pay for insuring a quality of a good or service offered by the first entity based on the determined ratee reputation of the first entity. Moukas et al teaches a selling agent that knows what expertise an entity has and can compare different entities offering the expertise. Moukas et al specifically teaches the reputation of the entity being a factor of merchant differentiation in retail sales negotiation (p12 – Tete-a-Tete).

Moukas et al teaches a negotiation system that provides way for merchants to differentiate themselves in product and service attributes such as warranty length and options, service contracts, payment options, etc (p12 – Tete-a-Tete). All of which are elements of insuring quality of a product. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the reputation generating method of Zacharia et al with the Moukas et al method of determining a price to pay for a good or service offered by the first entity based on the determined ratee reputation to make, for example, an online shopping experience more efficient, realistic and trustworthy as suggested by Moukas et al.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aggarwal et al, US Patent No. 6,487,541 B1 directed to a system and method for collaborative filtering employing a breadth-first search.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Johnna Stimpak** whose telephone number is **703-305-4566**. The examiner can normally be reached Monday through Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Tariq Hafiz**, can be reached on **703-305-9643**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **703-308-1113.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

703-305-7687	[Official communications; including After Final communications labeled "Box AF"]
703-746-3956	[Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th Floor.

JS
6/23/03

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